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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,369	05/13/1999	PETER R. CASTRO	CASTRO.I	1158
22186	7590	04/21/2004	EXAMINER	
MENDELSON AND ASSOCIATES PC 1515 MARKET STREET SUITE 715 PHILADELPHIA, PA 19102			HOANG, THAI D	
			ART UNIT	PAPER NUMBER
			2667	7

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/311,369

Applicant(s)

CASTRO, PETER R.

Examiner

Thai D Hoang

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 05/31/2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 8-14 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peer, US Patent No. 5,577,196 in view of Schroeder et al, US Patent No. 6,341,129, hereafter referred to as Peer and Schroeder respectively.

Regarding claims 1, 11-12, Peer discloses a method and system called intelligent digital signal hitless protection switch. Peer discloses that data is received in a stream of super frames in Extended Superframe Format (ESF) including a CRC-6 code to detect error; col. 5, lines 5-23 (receiving an incoming signal; applying a checksum function to each subset of data to generate a check bit for the subset; adding the check bit for each subset to the sub-signal to generate an augmented sub-signal). Also, Peer teaches that the super frames are transmitted over two parallel communication links, and selected in a receiver, on a super-frame basis, the super frame conveying error-free data to deliver to an end user; col. 4, lines 61-67 (routing at least two copies of the augmented sub-signal in parallel through redundant portions of a distributed switch fabric to generate at least two routed sub-signals for the sub-signal). Furthermore, Peer teaches that the super frames are processed to detect the presence or absence of errors in each of the first ESF super frames or presence or absence of errors in each of the second ESF

super frames using the CRC-6 check data contained in the ESF super frames and CRC-6 calculations on the first and second ESF super frames, respectively. Finally, the system provides errors-free ESF super frames to the output port; col. 5, lines 17-29. Peer does not disclose the system comprises a slicer to slice incoming data into a plurality of sub-signals, wherein each of the sub-signals is divided into one or more subsets of data (performing a checksum analysis on at least one of the routed sub-signals; selecting one of the routed sub-signals in accordance with the checksum analysis; combining data from the selected routed sub-signals corresponding to the plurality of sub-signals to generate the outgoing signal). However, Schroeder discloses a TCP resegmentation method. Schroeder discloses data input is segmented into one or more sub-segments; fig. 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply segmentation method disclosed by Schroeder into Peer's system in order to protect hitless because the incoming data size is reduced, the error is quickly detected.

Regarding claims 2 and 13, Peer discloses the incoming data stream in D4 format is converted to ESF format, wherein each of the ESF CRC-6 code is added to the header; fig. 4; col. 8, lines 48-49; col. 3, lines 50-58; col. 7, lines 18-22 (wherein the step of receiving an incoming signal comprises the step of terminating overhead data in incoming signal, wherein the check bits replace at least some of the terminated overhead data during routing through the distributed switch fabric).

Regarding claims 3 and 14, the size of data in each ESF is inherently not increased by CRC-6 code added into each ESF because data and CRC-6 are separate

in an ESF (the size of each subset of data in each sub-signal is selected such that the addition of the check bits does not increase the size of the data routed through the distributed switch fabric relative to the size of the data in the incoming signal).

Regarding claims 8 and 19, since Peer's system provides errors-free ESF super frames to the output port, wherein the ESFs are created from D4 data stream.

Therefore, the selection of routed sub-signals for each sub-signal is independent of the selection of routed sub-signals for each other sub-signal. Peer does not disclose the sub-signal. However, Schroeder teaches this feature as recited in claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply segmentation method disclosed by Schroeder into Peer's system for advantages cited above with respect to claim 1.

Regarding claims 9 and 20, since ESFs are created from D4 data stream; therefore, the selection of routed ESFs for any one ESF affects the selection of routed ESFs for all other ESFs. Peer does not disclose the sub-signal. However, Schroeder teaches this feature as recited in claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply segmentation method disclosed by Schroeder into Peer's system for advantages cited above with respect to claim 1.

Regarding claims 10 and 21, Peer discloses the system comprises delay buffer 476 and 486 for buffering ESFs to ensure error less protection switching upon detection of an error based on CRC analysis; col. 9, lines 25-48 (comprising the step of buffering

a sufficient amount of data to ensure errorless protection switching upon detection of a fault during the checksum analysis).

Claims 4-7 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peer, US Patent No. 5,577,196 in view of Schroeder et al, US Patent No. 6,341,129, and further in view of Sawey et al., US Patent No. 6,195,330 hereafter referred to as Peer, Schroeder and Sawey respectively.

Regarding claims 4, 7, 15 and 18, Peer discloses the system comprises delay buffer 476 and 486 for buffering ESFs to ensure error less protection switching upon detection of an error based on CRC analysis; col. 9, lines 25-48. Peer does not disclose the system uses SONET format for transmission. However, Sawey discloses a method and system for hitless switching. Sawey discloses the system transmits signal in SONET format. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply SONET format disclosed by Sawey into Peer's system in order to expand the market expand the market, since it could be adapted with conventional systems that use SONET format in networks.

Regarding claims 5 and 16, since Peer's system provides errors-free ESF super frames to the output port, wherein the ESFs are created from D4 data stream. Therefore, the selection of routed sub-signals for each sub-signal is independent of the selection of routed sub-signals for each other sub-signal. Peer does not disclose the sub-signal. However, Schroeder teaches this feature as recited in claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was

made to apply segmentation method disclosed by Schroeder into Peer's system for advantages cited above with respect to claim 1.

Regarding claims 6 and 17, since ESFs are created from D4 data stream; therefore, the selection of routed ESFs for any one ESF affects the selection of routed ESFs for all other ESFs. Peer does not disclose the sub-signal. However, Schroeder teaches this feature as recited in claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply segmentation method disclosed by Schroeder into Peer's system for advantages cited above with respect to claim 1.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang

  
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TECHNOLOGY CENTER 2600 4/9/07